


IEEE Xplore®
 RELEASE 1.6

 Welcome
 United States Patent and Trademark Office

[Help](#) | [FAQ](#) | [Terms](#) | [IEEE Peer Review](#)
[Quick Links](#)
» [Sea](#)
Welcome to IEEE Xplore®

- ☐ Home
- ☐ What Can I Access?
- ☐ Log-out

Tables of Contents

- ☐ Journals & Magazines
- ☐ Conference Proceedings
- ☐ Standards

Search

- ☐ By Author
- ☐ Basic
- ☐ Advanced

Member Services

- ☐ Join IEEE
- ☐ Establish IEEE Web Account
- ☐ Access the IEEE Member Digital Library

 Your search matched **2** of **995179** documents.

 A maximum of **500** results are displayed, **15** to a page, sorted by **Relevance Descending** order.

Refine This Search:

You may refine your search by editing the current search expression or enter a new one in the text box.

☐ Check to search within this result set

Results Key:
JNL = Journal or Magazine **CNF** = Conference **STD** = Standard

1 Linear interpolation, extrapolation, and prediction of random space-fields with a limited domain of measurement
Petersen, D.; Middleton, D.;

 Information Theory, IEEE Transactions on , Volume: 11 , Issue: 1 , Jan 1965
 Pages:18 - 30

[\[Abstract\]](#) [\[PDF Full-Text \(1456 KB\)\]](#) **IEEE JNL**
2 Spectral analysis methods for Poisson sampled measurements
Banning, R.;

 Instrumentation and Measurement, IEEE Transactions on , Volume: 46 , Issue: 4 , Aug. 1997
 Pages:882 - 887

[\[Abstract\]](#) [\[PDF Full-Text \(160 KB\)\]](#) **IEEE JNL**
[Home](#) | [Log-out](#) | [Journals](#) | [Conference Proceedings](#) | [Standards](#) | [Search by Author](#) | [Basic Search](#) | [Advanced Search](#) | [Join IEEE](#) | [Web Account](#) | [New this week](#) | [OPAC Linking Information](#) | [Your Feedback](#) | [Technical Support](#) | [Email Alerting](#) | [No Robots Please](#) | [Release Notes](#) | [IEEE Online Publications](#) | [Help](#) | [FAQ](#) | [Terms](#) | [Back to Top](#)

Copyright © 2004 IEEE — All rights reserved



Welcome
United States Patent and Trademark Office

Help FAQ Terms IEEE Peer Review

Quick Links

» Sea

Welcome to IEEE Xplore®

- ☐ Home
- ☐ What Can I Access?
- ☐ Log-out

Tables of Contents

- ☐ Journals & Magazines
- ☐ Conference Proceedings
- ☐ Standards

Search

- ☐ By Author
- ☐ Basic
- ☐ Advanced

Member Services

- ☐ Join IEEE
- ☐ Establish IEEE Web Account
- ☐ Access the IEEE Member Digital Library

Search Results [PDF FULL-TEXT 1456 KB] NEXT DOWNLOAD CITATION

Order Reuse Permissions
RIGHTS L For K&S

Linear interpolation, extrapolation, and prediction of random space-time fields with a limited domain of measurement

Petersen, D. Middleton, D.

This paper appears in: **Information Theory, IEEE Transactions on**

Publication Date: Jan 1965

On page(s): 18 - 30

Volume: 11 , Issue: 1

ISSN: 0018-9448

Abstract:

Formulas are derived for linear (least-square) reconstruction of multidimensional (e.g., space-time) **random** fields from **sample** measurements taken over a limited region of observation. Data may or may not be contaminated with additive noise. Sampling points may or may not be constrained to lie on a periodic grid. The solution of the optimum filter problem in wave-number space is possible under certain restrictive conditions: 1) that the sampling locations be periodic and occupy a sector of the Euclidean sampling space, and 2) that the wave-number spectrum be factorable into components, one of which represents a function nonzero only within the **data** sector and the other only within the sector imaging the **data space** through the origin. If the continuous field is accessible before sampling, a prefiltering operation can, in general, reduce the subsequent error of reconstruction. However, the determination of the optimum filter functions is exceedingly difficult, except under very special circumstances. A one-dimensional second-order Butterworth process is used to model the effects of various postulated constraints on the sampling and filtering configuration.

Index Terms:

Extrapolation Interpolation Least-squares estimation Multidimensional signal processing
Prediction methods

Documents that cite this document

There are no citing documents available in IEEE Xplore at this time.

Search Results [PDF FULL-TEXT 1456 KB] NEXT DOWNLOAD CITATION

Welcome to IEEE Xplore®

- ☐ Home
- ☐ What Can I Access?
- ☐ Log-out

Tables of Contents

- ☐ Journals & Magazines
- ☐ Conference Proceedings
- ☐ Standards

Search

- ☐ By Author
- ☐ Basic
- ☐ Advanced

Member Services

- ☐ Join IEEE
- ☐ Establish IEEE Web Account
- ☐ Access the IEEE Member Digital Library

[Search Results](#) [[PDF FULL-TEXT 160 KB](#)] [PREV](#) [DOWNLOAD CITATION](#)

 Order Reuse Permissions
 RIGHT LINK

Spectral analysis methods for Poisson sampled measurements

Banning, R.

Dept. of Appl. Phys., Delft Univ. of Technol., Netherlands;

This paper appears in: **Instrumentation and Measurement, IEEE Transac**

Publication Date: Aug. 1997

On page(s): 882 - 887

Volume: 46 , Issue: 4

ISSN: 0018-9456

Reference Cited: 5

CODEN: IEIMAO

Inspec Accession Number: 5756204

Abstract:

The velocity measurements for turbulent flow regimes obtained with laser Doppler anemometry are not only affected by random noise but are also unevenly spaced. The usual spectral estimators rely on evenly spaced data points. It would appear that the measurement data requires adjustment before it can be passed on to estimators. In this paper, both an analysis method with a novel adjustment scheme as well as an analysis method which does not rely on the use of adjustment scheme are presented.

Index Terms:

Kalman filters anemometers anemometry discrete Fourier transforms flow measurement velocimetry sampled data systems spectral analysis Kalman filtering Poisson sampled measurements discrete Fourier transforms laser Doppler anemometry measurement random noise sampled data systems spectral analysis spectral estimators stochastic turbulent flow velocity measurement

Documents that cite this document

There are no citing documents available in IEEE Xplore at this time.

Reference list:

1, B. D. O. Anderson and J. B. Moore, *Optimal Filtering*. Englewood Cliffs, NJ: Prentice Hall, 1979.